PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of	:	Ahmed Raslan
Serial No.	:	10/025,226
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Title	:	ELECTRONIC HIGH-SECURITY SAFE LOCK
Preliminary Class	:	070
Examiner	:	
Docket	:	

The Commissioner of Patents and Trademarks
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Dear Sir:

The following fees are payable with respect to this response:

$15 for insufficient basic filing fee for a small entity;

$65 for compliance with 37 CFR 1.27;

$200 for two months extension of time 37 CFR 1.17(a)(2) for small entity;

therefore, balance due is $280.

In response to the notice to file missing parts of nonprovisional application formalities letter mailed January 22, 2002, please enter the following before reconsideration of this application.

Certificate of Express Mail

I hereby certify that this paper or fee is being deposited with the United States Postal Service via "Express Mail Post Office to Addressee," Mailing label No. EG510529825US, under 37 CFR 1.10, on the 22nd day of May, 2002, and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

signature: Christine Cole

printed name: CHRISTINE COLE

EG510529825US

In the Drawings

Please cancel the drawings, without prejudice or disclaimer of the subject matter therein, presently on file in favor of the drawings accompanying the attached Submission. Please add Figure(s) 1-7 to the drawings per the attached Submission.

In the Specification

Please cancel, without prejudice or disclaimer of the subject matter therein, all the text in the Brief Description of the Drawings section. Please amend the section with the following text:

Fig. 1 is a diagram showing the component parts of a preferred embodiment of the invention.

Fig. 2 is a diagram showing the component parts of a preferred embodiment of the invention.

Fig. 3 is a diagram showing the component parts of a preferred embodiment of the invention.

Fig. 4 is a flow chart showing the flow of information during operation of the preferred embodiment of the invention illustrated in Fig. 1.

Fig. 5 is a flow chart showing the flow of information during operation of the preferred embodiment of the invention illustrated in Fig. 2.

Fig. 6 is a flow chart showing the flow of information during operation of the preferred embodiment of the invention illustrated in Fig. 3.

Fig. 7 illustrates a variation of the preferred embodiment shown in Fig. 3.

Please cancel, without prejudice or disclaimer of the subject matter therein, all the text in the Detailed Description of the Preferred Embodiment section. Please amend the section with the following text:

Referring to Fig. 1, which shows a schematic block diagram of a preferred embodiment of the invention, access sensor 100 is adapted to read code information input by a user seeking entry into the safe. The access sensor 100 comes in many forms today such as a magnetic card reader, input keyboard, biometrics scanner, bar code reader and holographic reader. The access sensor 100 design today is available in many packaged configurations of the aforementioned access sensor forms. Examples of such package configurations available are magnetic card reader and keyboard, bar code reader and keyboard and magnetic card reader and biometrics scanner. Any of the access sensor forms can be joined together to provide multiple layers of security. Access sensor 100 is directed by control element 110. Control element 110 is a programmable device that can receive input and respond to such input. An example of a control element in common use today is a microprocessor but any programmable device will work. The control element 110 can receive input from access sensor 100 and respond to the input in a programmed way. Control element 110 can also be programmed to initiate action on its own such as when a time-based sequence of events is scheduled to occur. Control element 110 can send and receive information to both the access sensor 100 and voltage relay 120.

Fig. 4 shows the information flow through the embodiment represented in Fig 1. Block 400 shows that access codes are entered in the access sensor 100. In most cases, clients of the invention vender prefer at least two different types of codes to be entered for redundant protection, although both a single code and more than two codes is easily

accommodated with what is conventionally available. Block 405 shows that entered information are recorded to provide a record for later auditing. Block 410 is where control element 110 analyzes the code entries. Block 415 is where control element 110 verifies that the codes match the codes on an accept list. Block 420 shows that when a set of codes are accepted, that a record of the date and time of the entry and which codes were accepted to allow the entry are recorded for later auditing purposes. Block 425 shows a signal is sent after the recordation of the entry to voltage relay 120. The signal sent to voltage 120 is a low voltage signal that does not provide enough power to drive means for solenoid 130. Consequently, voltage relay 120 turns on an alternate power supply to drive means for solenoid 130. The alternate power source is any conventional power source that provides enough power such as 120 or 220 volt AC current, DC battery supply or generator supply.

Referring to Fig. 2, which shows a schematic block diagram of a preferred embodiment of the invention, access code sensor 210 is adapted to read code information input by a user seeking entry into the safe. The access code sensor 210 comes in many forms today such as a magnetic card reader, biometrics scanner, bar code reader and holographic reader. The access code sensor 210 design today is available in many packaged configurations of the aforementioned access sensor forms. Any of the access code sensor forms can be joined together to provide multiple layers of security. Access code sensor 210 is directed by microprocessor 220. Microprocessor 220 is a programmable device that can receive input and respond to such input in a programmed way.

Fig. 5 shows the information flow through the embodiment represented in Fig 2. Block 500 shows that access codes are entered in the access code sensor 210. In most cases, clients of the invention vender prefer at least two different types of codes to be entered for redundant protection, although both a single code and more than two codes is easily accommodated with what is conventionally available. Block 505 shows that entered information are recorded to provide a record for later auditing. Block 510 is where microprocessor 220 analyzes the code entries. Block 515 is where microprocessor 220 verifies that the codes match the codes on an accept list. Block 520 shows that when a set of codes are accepted, keypad 200 is activated. When keypad 200 is activated, the person trying to gain entry to the safe has to enter a code on keypad 200. Block 530 shows that entered information is recorded to provide a record for later auditing. Block 530 is where microprocessor 220 analyzes the code entries. Block 540 is where microprocessor 220 verifies that the codes match the codes on an accept list. Block 545 shows that when a set of codes are accepted, that a record of the date and time of the entry and which codes were accepted to allow the entry are recorded for later auditing purposes. Block 550 shows a signal is sent after the recordation of the entry to voltage relay 240. The signal sent to voltage relay 240 is a low voltage signal that does not provide enough power to drive solenoid 230. Consequently, voltage relay 240 turns on an alternate power supply to drive solenoid 230. The alternate power source is any conventional power source that provides enough power such as 120 or 220 volt AC current, DC battery supply or generator supply.

Referring to Fig. 3, which shows a schematic block diagram of a preferred embodiment of the invention, code sensor 300 is adapted to read numerical data encoded

on the magnetic strip of a plastic access card. When a such an access card is swiped through the reader of code sensor 300, numerical data are transmitted to first microprocessor 310 which has a read-only memory (ROM), in which are contained allow access codes. If no match between the transmitted data and an access code is found, the program terminates and the display reads "access denied", while a match results in a display prompt reading "enter PIN". When a PIN is entered by means of a keypad 320, the entered data is transmitted to a control microprocessor 330 having a read-only memory (ROM) that compares the inputted PIN to a list of allowed PINS. No match results in termination of the program and a display prompt reading "access denied", while a match results in a display prompt such as "enter instruction code that requests a numerical code that will specific one or two electronic messages that result in sending a signal in the form of a 3 V pulse that passes through a voltage step up relay 350, into which 120 V AC flows after passing through an AC to DC converter 360, and then to solenoid 340 that controls the entry barrier.

Referring now to Fig.6, which shows the flow of information during operation of the preferred embodiment, access code sensor 600 reads data contained on an access card and transmits it to first microprocessor 310, where it is compared to allow codes stored in the ROM. A match prompts the user to enter a numerical PIN using keypad 320. The inputted PIN is transmitted to a control microprocessor 330 which records the inputted PIN and the time of the attempted entry and compares the inputted PIN to a list of ROM-stored allowed access PINs to determine whether a match exists. If a match exists, the display prompts the access seeker to enter numerical instructions. The input of a numerical instruction code results in a 3V signal being sent from the control

microprocessor 330. This 3V signal is then amplified by 120V AC current passing through an AC to DC converter 360 to yield a 15V pulse which then actuates the solenoid.

Referring to Fig. 7 which shows a second embodiment of the invention that utilizes a spring loaded solenoid dead bolt access barrier, access card reader 10 and keypad 20 are combined in a wall amount unit 5. Display 30 instructs an access seeker to swipe an access card through access card reader 10. Upon swiping the card, the access code recorded on the card is transmitted to a first microprocessor 40, which compares it a list of ROM-stored access codes. If no match is detected, the program is terminated and the display 30 will read "access denied". If a match is detected, the display 30 instructs the access seeker to input a numerical PIN using keypad 20. The PIN is transmitted to a control microprocessor 50, having a Read Only Memory (ROM) in which are stored authorized PINs. The inputted PIN is compared to the authorized PINs, and if no match is found, the program is terminated and display 30 will read "access denied." If a match is found between the inputted PIN and an authorized code, the display 30 will prompt the access seeker to give further instructions, which may include numerical codes for adjusting the time delay of the spring-loaded, solenoid controlled dead bolt barrier 60. A 3 volt pulse is then sent from control microprocessor 50 to voltage step-up relay 70 where it is amplified, perhaps by using an AC standby battery. Voltage step up relay then sends a 15 volt DC current to solenoid 80, which results in opening the dead bolt barrier 60 and compressing a spring 90. The dead bolt barrier 60 stays open until the period of the time delay expires. Following the expiration of the time delay, the spring is 90 released, closing dead bolt access barrier 60.

In the Claims

Please cancel claims 1-4, without prejudice or disclaimer of the subject matter therein, in favor of new claims 5-24 as follows:

5. (new) An electronic lock for a safe door comprising:

an access sensor;

a control element, for analyzing an access code entry, in communications with the access sensor;

means for receiving and applying power connected to a voltage relay, the voltage relay being responsive to the control element; and

a solenoid actuated by a signal from the voltage relay, whereby the actuated solenoid changes the entry status of the safe door.

6. (new) The electronic lock of claim 5 wherein the solenoid had a core member whose position may be varied by inputting instructions into the control element.

7. (new) The electronic lock of claim 6 wherein the core member position is time controlled by the control element.

8. (new) The electronic lock of claim 5 wherein the access sensor is a magnetic card reader and keypad combination unit.

9. (new) An electronic lock for a safe door comprising:

an access code sensor;

a microprocessor, for analyzing an access code entry, in communications with the access code sensor;

a keypad in communication with the microprocessor in which the communication activates the keypad for code entry and analyzes the keypad entry;

means for receiving and applying power connected to a voltage relay, the voltage relay being responsive to the microprocessor; and

a solenoid actuated by a signal from the voltage relay, whereby the actuated solenoid changes the entry status of the safe door.

10.(new)The electronic lock of claim 9 wherein the solenoid had a core member that is spring biased.

11.(new)The electronic lock of claim 10 wherein the core member position may be varied by inputting instructions into the microprocessor.

12.(new)The electronic lock of claim 11 wherein the core member position is time controlled by the microprocessor.

13.(new)The electronic lock of claim 9 wherein the solenoid had a core member that is gravity biased.

14.(new)The electronic lock of claim 13 wherein the core member position may be varied by inputting instructions into the microprocessor.

15.(new)The electronic lock of claim 14 wherein the core member position is time controlled by the microprocessor.

16.(new)The electronic lock of claim 9 wherein the access sensor is a bar code reader.

17.(new)An electronic lock for a safe entry barrier comprising:

an access code reader;

a first microprocessor, for analyzing an access code entry, in communication with the access code reader;

a keypad in communication with the first microprocessor in which the communication activates the keypad for code entry;

a control microprocessor, for analyzing a keypad entry, in communication with the keypad;

means for receiving and applying power connected to a means for power signal conversion;

a voltage relay connected to the means for power signal conversion, the voltage relay being responsive to the control microprocessor; and

a solenoid actuated by a signal from the voltage relay, whereby the actuated solenoid changes the entry status of the safe entry barrier.

18.(new)The electronic lock of claim 17 wherein the solenoid had a core member that is spring biased.

19.(new)The electronic lock of claim 18 wherein the core member position may be varied by inputting instructions into the control microprocessor.

20.(new)The electronic lock of claim 19 wherein the core member position is time controlled by the control microprocessor.

21.(new)The electronic lock of claim 17 wherein the solenoid had a core member that is gravity biased.

22.(new)The electronic lock of claim 21 wherein the core member position may be varied by inputting instructions into the control microprocessor.

23.(new)The electronic lock of claim 22 wherein the core member position is time controlled by the control microprocessor.

24.(new)The electronic lock of claim 17 wherein the access sensor is a magnetic card reader.

In the Abstract

Please cancel the Abstract of the Disclosure presently on file, without prejudice or disclaimer of the subject matter therein, and enter into the record of this application the same Abstract of the Disclosure typed on a separate sheet and accompanying this response.

Remarks

This preliminary amendment addresses the objections made in the notice to file missing parts of nonprovisional application formalities letter mailed January 22, 2002. The preliminary amendment also clarifies and more accurately describes what the Applicant considers to be their invention as described in the original Disclosure submitted to the USPTO on December 18, 2001.Consequently, the preliminary amendment adds no new subject matter as all the subject matter is based on the file of the original Disclosure.

The objections raised to the drawings are acknowledged by the Applicant. New formal drawings, overcoming all of the raised drawing objections, will be forwarded to the Patent Office once this application is placed in a condition for allowance. The new drawings are submitted to more accurately and clearly describe what the Applicant considers as their invention as described in the original Disclosure.

The amended text in the Brief Description of the Drawings section and the Detailed Description of the Preferred Embodiment section is a restatement of the information from the original Disclosure. This restatement was necessary in order to more clearly and accurately describe what the Applicant considers as their invention. Omitted page 8 was a typo and therefore page 8 was never a part of the original Disclosure. Accompanying this response, please find a clean copy of the amended Specification. The clean copy of the Specification does not

include any new subject matter and only includes the same changes which are indicated in this preliminary amendment. Please enter the substitute Specification into the record of this case.

The amended claims were submitted to more accurately and clearly describe what the Applicant considers as their invention as described in the original Disclosure.

The objection raised with respect to the Abstract of the Disclosure is overcome by the above requested amendment. If any further amendment to the Abstract is believed necessary, the Examiner is invited to contact the undersigned to discuss the proposed change(s) to the same.

In view of the foregoing, it is respectfully submitted that this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

Respectfully submitted,

Slater and Cole, LLP

5/22/02
Date

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